

Ryozo WATANABE*: Dr. Z. Iwatsuki's collection of
New Caledonian and Fijian Thuidiaceae (Musc)*

渡辺良象*: 岩月博士採集のニューカレドニア
及びフィジー産シノブゴケ科蘚類

Dr. Z. Iwatsuki (Hiroshima University) and Dr. N. Kitagawa (Nara University of Education) made extensive fieldwork on bryophytes in New Caledonia and Fiji from July to August in 1983. They collected large numbers of specimens, among which some 50 specimens of the Thuidiaceae were included. I was very much fortunate to have a chance to study these collections and identified 8 species of the Thuidiaceae, as enumerated in the following text. Among them, only two (*Thuidium samoanum* and *T. ciliarifolium*) were endemic to the Polynesian and Melanesian region but the rest have rather broad range of distribution in tropical and temperate regions.

I am indebted to Dr. Z. Iwatsuki and Dr. N. Kitagawa for their kindness in placing the Thuidiaceae collections at my disposal. To economize the space, the collector's name (Z. Iwatsuki) was abbreviated as ZI.

1) *Thuidium cymbifolium* (Dozy et Molke.) Dozy et Molke.

New Caledonia. Caavatch 12 km west of Hienghene, 30-50 m alt., Iwatsuki (ZI) 15711 (on rock). Me Ori, N of Moindou, 540-570 m alt., ZI 16686 (on rock). Foot of Plateau de Dogny, NE of Sarramea, 200 m alt., ZI 16900 (on tree trunk). Fiji. Viti Levu, Nomosi Rd., W of Suva, 100-886 m alt., ZI 17098 & 17189 (on rock). Monasavu, 830-880 m alt., ZI 17227a (on root of tree).

Distr. Widely distributed in temperate to tropical Asia, Micronesia, Polynesia, Melanesia, N. Australia and Latin America (Cuba and Venezuela).

2) *Thuidium samoanum* Mitt.

New Caledonia. Mont Koghis, in dense forest, 450-550 m alt., ZI 15165 & 15232 (on rock). Mont Mou, N of Paita, 350-500 m alt., ZI 15348 (on soil). Near Cal des Roussettes (Trou Bleur), between Bourail and Houailou, 300 m

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** Studies on Oceanic Bryophytes, no. 14. Grantful acknowledgement is made of the financial support for this study by a Grant-in-Aid for Overseas Scientific Survey (no. 57041065) provided by the Ministry of Education, Science and Culture, Japan, to the Hattori Botanical Laboratory.

alt., along a stream, ZI 15647 (on soil). Me Ori, N of Moindou, 540-570 m alt., ZI 16678a (on tree trunk).

Distr. Ceram, New Guinea, Solomon, New Caledonia, Samoa and Fiji.

This species is closely related to *T. glaucinoides*, but the latter is distinguished by the entire perichaetial leaves.

3) *Thuidium ciliarifolium* R. Watanabe

Fiji. Viti Levu, Namosi Rd., W of Suva, 100-500 m, ZI 17089a (on trunk of tree). Monasavu, 830-880 m, ZI 17225a (on rotten log).

Distr. Samoa, and new to Fuji.

4) *Thuidium kuripanum* (Dozy et Molk.) R. Watanabe, comb. nov. (Fig. 1).

Basionym: *Hyphnum kuripanum* Dozy et Molk. in Zoll., Syst. Verz. 29 (1855).

Leskea tracy-poda Mitt., J. Linn. Soc. Bot. suppl. 1: 133 (1859).

Plants delicate, in intricate, thin mats, yellowish- to dark-green, brownish below; stem creeping, 1-3 cm long, ca 0.15 mm thick, regularly bipinnately branched, branches ca 3 mm long; central strand present; paraphyllia crowded, restricted on stem, filiform, 2-5 cell long, apical cells crowned with 2-4 papillae each; stem-leaves slightly concave, appressed when dry, erect-spreading when moist, triangular to triangular-ovate, acuminate, 0.3-0.45 mm long, 0.2-0.3 mm thick, margins narrowly recurved, papillate crenulate, costa ca 4/5 the leaf-length, smooth, median cells rhomboidal to hexagonal, $6-17 \times 5-8 \mu$, with 2-5 papillae over each cell-lumen; branch-leaves crowded, ovate, short acuminate, 0.25-0.35 mm long, 0.2-0.3 mm broad, margins papillate-crenulate, costae ca 2/3 the leaf-length, apical cells crowned with 2-4 papillae each, otherwise similar to stem-leaves. Autoicous. Perichaetial leaves ciliate on shoulder. Seta slender, reddish-brown, 0.6-1.2 cm long, ca 0.17 mm thick, papillose throughout; capsule inclined, 0.7-1 mm long, 0.4-0.6 mm thick, smooth; outer peristome teeth reddish-brown, ca 0.25 mm long and 0.05 mm thick at base, numerous papillose upper parts; inner peristome teeth light yellow, finely papillose, basal membrane ca 1/2 as long as teeth, cilia usually 2 per tooth; spores 7-15 μ , slightly papillose; calyptra cucullate, pale yellowish-green, smooth.

Type: Java, ad rupes calcareas pr. Kuripan, Zollinger 1810, lectotype in L.; dupl. in BM, F.

New Caledonia. A valley 10 km north of Boulouparis, 250 m alt., ZI 15453 (on tree trunk), ZI 15455 (on rock). Caavatch 14 km west of Hienghene, 30-50 m alt., ZI 15677, 15679, 15686, 15718 (all on rock), ZI 15742 (on tree trunk).

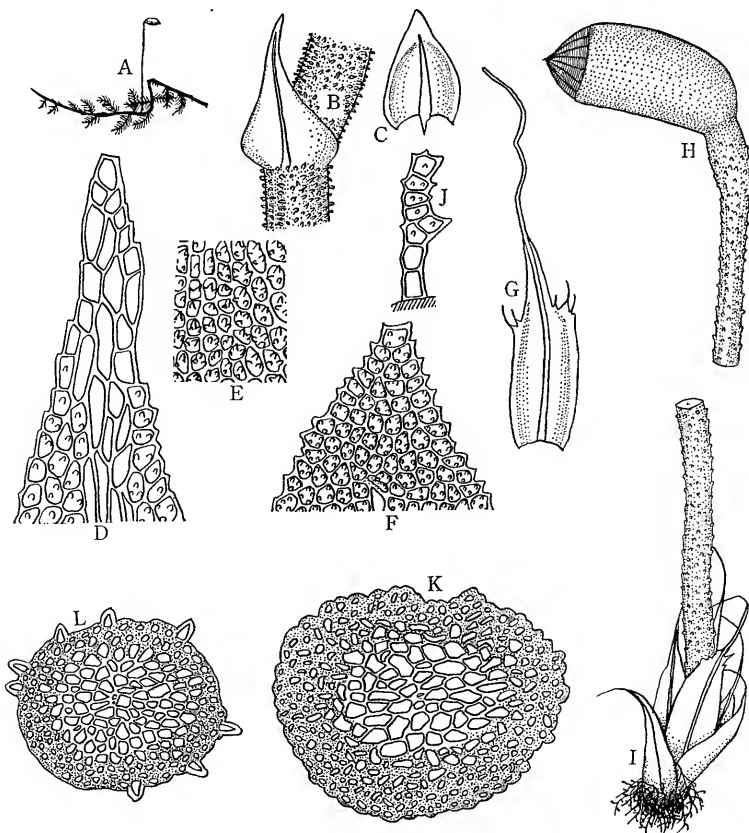


Fig. 1. *Thuidium kuripanum* (Doz. et Molk.) R. Watanabe. A. Habit, $\times 1$. B. Stem leaf, $\times 55$. C. Branch leaf, $\times 55$. D. Cells from apical part of stem leaf, $\times 300$. E. Cells from median part of stem leaf, $\times 300$. F. Cells from apical part of branch leaf, $\times 300$. G. Perichaetial leaf, $\times 30$. H. Capsule, $\times 21$. I. Perichaetial leaves and part of seta, $\times 21$. J. Paraphyllum, $\times 300$. K. Cross-section of stem, $\times 205$. L. Cross-section of seta, $\times 205$. All figs. drawn from Iwatsuki 16585 (NICH 386140).

Hienghene, around Hotel Maitre Pierre, 5-10 m alt., ZI 16039, 16058 (on tree trunk). Mont Mandjelia, W of Pouebo, a valley near summit, 600 m alt., ZI 16247 (on rock). Me Ori, N of Moindou, 540-570 m alt., ZI 16541, 16655a (on fallen & decaying tree trunk), ZI 16658a, 16659 (on rotten log). Grottes d'Adio, about 15 km NE of Paya, limestone area, 200 m alt., ZI 16572, 16583 (on fallen

& decaying tree trunk), ZI 22788 (on rock), ZI 16585. Valley between Boulouparis and Thio (25 m SW of Thio), 50-100 m alt., ZI 16830, 16856 (on tree trunk), ZI 16839 (on fallen & decaying tree trunk), ZI 16840, 16856 (on tree trunk). Valley between Thio and Canala, 320 m alt., ZI 16883 (on root of tree). Foot of plateau de Dogny, NE of Sarramea, 200 m alt., ZI 16903 (on rock). Plateau de Dogny, NE of Sarramea, 400-600 m alt., ZI 17022 (on rock), 830-1010 m alt., ZI 17015 (on fallen & decaying tree trunk).

Fiji. Mt. Victoria, 700-850 m alt., ZI 17325 (on soil).

Distr. Vietnam, Laos, Thailand, Malay Pen., Burma, India, Himalayas, Ceylon, Philippines, Borneo, Sumatra, Java, Celebes, New Guinea, Samoa, New Caledonia and Fiji.

This species is closely related to *T. tamariscellum*, but the latter is distinguished by the smooth setae.

The description and drawing published by Dozy & Molkenboer (1865) are different from the syntype specimens (Zollinger no. 1810, de Vries s.n. in hb. L, BM, F). According to Bryologia Javanica 1: 121 and pl. 224 (Dozy & Molkenboer l.c.), the leaf-cells have a single papilla and the entire perichaetial leaves. However, in the syntype specimens of *Hypnum kuripanum* the leaf-cells have 2-5 papillae and the perichaetial leaves are ciliate.

The characters of stem- and branch-leaves, leaf-cells, paraphyllia, perichaetial leaves, and capsule of holotype specimen (Wallich s.n. in hb. NY) of *Leskea trachypoda* (*Thuidium trachypodum*) agree well with those of *T. kuripanum* (*Hypnum kuripanum*).

5) *Pelekium velatum* Mitt.

New Caledonia. Ile de Pins, north of Kame, 50 m alt., ZI 16626 (on rock), ZI 16627 (on fallen & decaying branch); forest of Grotte d'Ouindea, 10 m alt., ZI 16632 (on rock).

Distr. Rather common in tropical and subtropical region of Asia, Melanesia and Polynesia.

This species is closely related to *P. bifarium*, but the latter is distinguished by the triangular-ovate stem-leaves with elongate filiform acumen, the conic papilla of leaf-cells, and by the branch-leaves in two lateral rows when moist condition.

6) *Pelekium bifarium* (Bosch et Lac.) Fleisch.

Fiji. Viti Levu, Namosi Rd., W of Suva, 100-500 m alt., ZI 17042 (on trunk

of tree).

Distr. Widely distributed in tropical Asia and Melanesia.

7) *Herpetineuron toccoe* (Sull. et Lesq.) Card.

New Caledonia. Caavatch 13 km west of Hienghene, 50 m alt., ZI 15681 (on rock). Hienghene, around Hotel Maitre Oierre, 5-10 m alt., ZI 16040 (on rock).

Distr. Widely distributed in temperate to tropical Asia and North America, rare in Melanesia.

8) *Haplophymenium pseudo-triste* (C. Muell.) Broth.

New Caledonia. Valley between Boulouparis and Thio (25 km SW of Thio), 100 m alt., ZI 16841 (on tree trunk).

Distr. Rather common in temperate to tropical Asia, South Africa, Australia, New Caledonia and New Zealand.

Literature cited

Dozy, F. & J.H. Molkenboer 1862-1870. *Bryologia Javanica*. Lugd. Batav. 2: 1-216, pl. 131-315.

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1983年の7月, 8月の2か月間, 岩月善之助博士(広島大学教授)と北川尚史博士(奈良教育大教授)によりニューカレドニアとフィジー諸島の蘚苔類学術調査が行れた。岩月博士のご好意により両諸島のシノブゴケ科蘚類の標本を調べることができた。その結果, 8種を確認することができた。

□井上 浩: フィールド図鑑 コケ 200pp. 1986. 東海大学出版会, 東京. ¥2,000. 日本産のコケ植物約2500種のうち, 身近なものや生態的に面白いものといった観点から選んだ, 代表的な約180種を収録した生態写真図鑑である。1頁1種の割合で, 写真と簡単なスケッチ, 記載が与えてある。1. 人里付近, 2. 常緑樹林, 3. 落葉樹林, 4. 針葉樹林, 5. 高山という生育地別にまとめてあり, 各生育地での生育基質を頁上に模式図で示して, 野外での使用の便をよくしてある。収録種数はやや少ないが, 初心者向けの野外観察図鑑という性格上, これ以上を望むのは酷であろう。本書に収められた写真の大部分は著者自身によるもので, コケの生きたままの姿・特徴がよく捉えられていて, 図からでは得られない植物体の感触がよく伝わってきて, フィールド図鑑としての機能を発揮している。野外携帯に便利なB6変形版。

(松井 透)